Claims

1. Satellite printing machine for printing sheets, comprising a single central counter-pressure cylinder (2) and a number of at least four satellite printing groups (S) for first printing, which are assigned to said cylinder in the rotational direction (D) thereof between the feed system, comprising a feed cylinder (3) and an output cylinder (4), **characterized in that** the counter-pressure cylinder (2) is developed as a rubber blanket cylinder and at least one additional satellite printing group (W) for at least single-color second printing is assigned to said cylinderin the rotational direction (D) thereof, behind the output system (4) and in front of the feed system (3).

2. Satellite printing machine as defined in Claim 1, wherein the counter cylinder (2) is provided with a gripper unit which grabs a sheet for full-size printing on both sides of the sheet in a single gripper bite.

3. Satellite printing machine as defined in Claim 1, wherein up to ten satellite printing groups (S) for first printing and up to ten satellite printing groups (W) for second printing are assigned to the counter-pressure cylinder (2).

4. Satellite printing machine as defined in one of the Claims 1 through 3, wherein the counter-pressure cylinder (2) comprises a periphery of 500 to 3000 mm.

5. Satellite printing machine as defined in one of the Claims 1 through 4, wherein the upper arc of a circle of the counter-pressure cylinder (2) is provided with five satellite printing groups (S), comprising an angular distance (W) of 35° to 45° to each other, preferably 38°.

6. Satellite printing machine as defined in one of the Claims 1 through 5, wherein second printing is effected in the area between the feed cylinder (3) and the satellite printing group (S) which follows in the rotational direction D of the counter-pressure cylinder (2).

7. Satellite printing machine as defined in one of the Claims 1 through 6, wherein in the area of the first satellite printing group (S) second and first printing occur simultaneously which follows the feed cylinder (3) in the direction of rotation D of the counter-pressure cylinder (2).

8. Satellite printing machine as defined in one of the Claims 1 through 6, wherein the cylinders (5, 6) of the satellite printing groups (S) are in synchronous drive connection with the counter-pressure cylinder (2) and jointly are adjustable in the peripheral alignment relative to the counter-pressure cylinder (2) .

9. Satellite printing machine as defined in one of the Claims 1 through 8, wherein said machine comprises a drive with toothed-wheel gearing.

10. Satellite printing machine as defined in one of the Claims 1 through 8, wherein said machine comprises a drive with one or several servomotors.

11. Satellite printing machine as defined in Claims 8 or 9, wherein the cylinders (5, 6) of the satellite printing groups (S) are driven by helical gear wheels (20, 30) which mesh with a helical gear wheel (28 a) of the counter-pressure cylinder (2), in that the gear wheel is sectioned (28 b), and the gear wheel section (18 a), which meshes with the helical gear wheel (28 a), is movable by means of an adjusting unit (21) in the direction of the axis (A).

12. Satellite printing machine as defined in one of the Claims 1 through 11, wherein the feed system (3) and the output system (4) are disposed at essentially the same height above a base plane of the machine and define an approximately horizontal operating level.

13. Satellite printing machine as defined in one of the Claims 1 through 12, wherein an aligning table (T) is arranged before the feed cylinder (3), which during operation is adjustable in the transverse direction, in height in the direction of feed and/or diagonally to the direction of feed during the operation.

14. Satellite printing machine as defined in one of the Claims 13, wherein the aligning table (T) comprises adjusting means for changing the direction of feed of the printing stock (B).

15. Satellite printing machine as defined in Claims 13 or 14, wherein the aligning table (T) in the area of the vacuum conveyor belts is provided with format-dependent compartments.

16. Satellite printing machine as defined in one of the Claims 1 through 15, wherein said machine comprises printing groups for flatbed and/or rotogravure and/or letterpress and/or silk-screen and/or xerographic and/or ink jet printing.

17. Satellite printing machine as defined in one of the Claims 1 through 16, wherein the printing groups for first and second printing are arranged one after the other, without intermediate drying.